

FIG.1

FIG. 2 is a block diagram of a TOA system. The system includes a SEARCH/MASTER RADIO (42) and a TARGET/REFERENCE RADIO (52). The SEARCH/MASTER RADIO (42) includes a Tx Mdm (42), BB IF (44), Tx RF (46), and a Tx antenna (Ia). The TARGET/REFERENCE RADIO (52) includes a Rx Mdm (52), IF BB (50), Rx RF (48), and a Rx antenna (Ia). A PAD (40) is connected between the Tx RF (46) and the Rx RF (48). The system also includes a TOA (Time of Arrival) measurement unit (54) connected to the Rx RF (48). The system is shown in a block diagram format with various components and their interconnections.

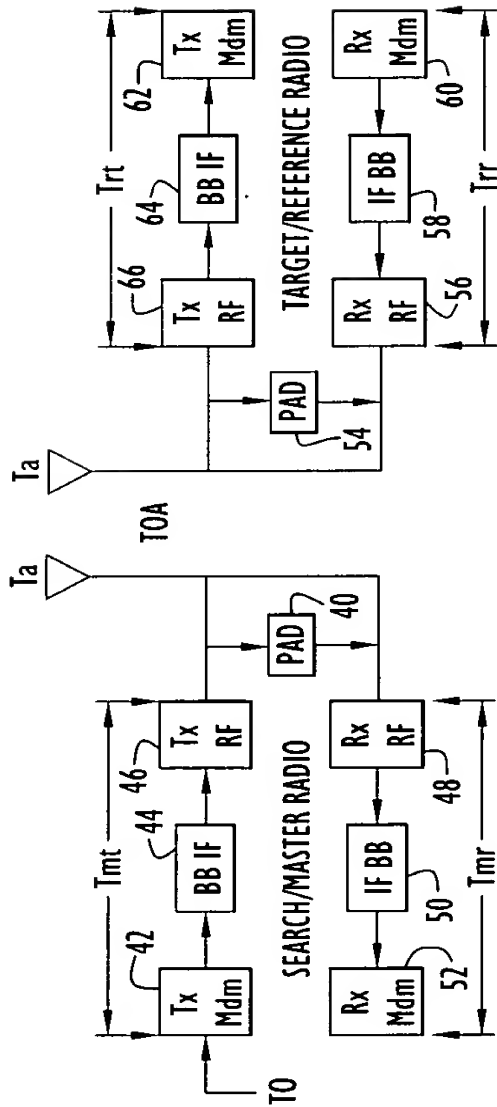
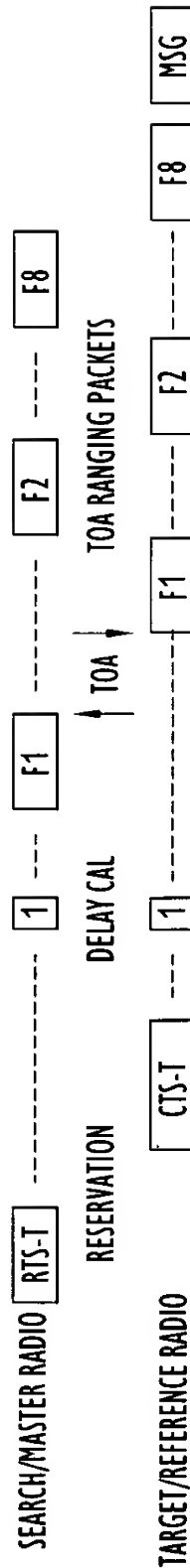


FIG.2



TOA PROTOCOL

FIG.4

1. The first step in the process is to establish a communication link between the source and destination. This is done by sending a message packet from the source to the destination.

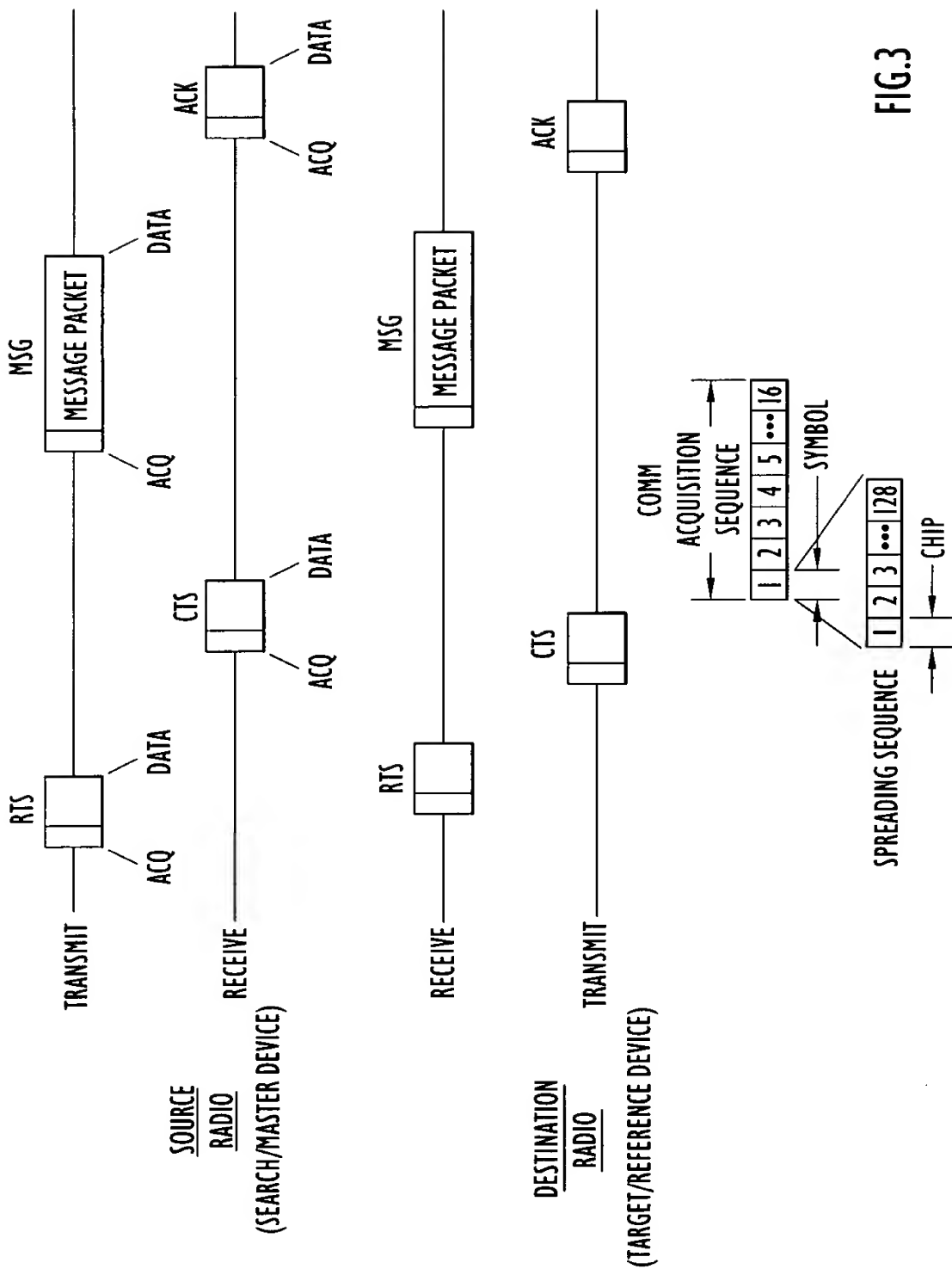


FIG.3

RANGING WAVEFORM FOR TOA PROCESSING

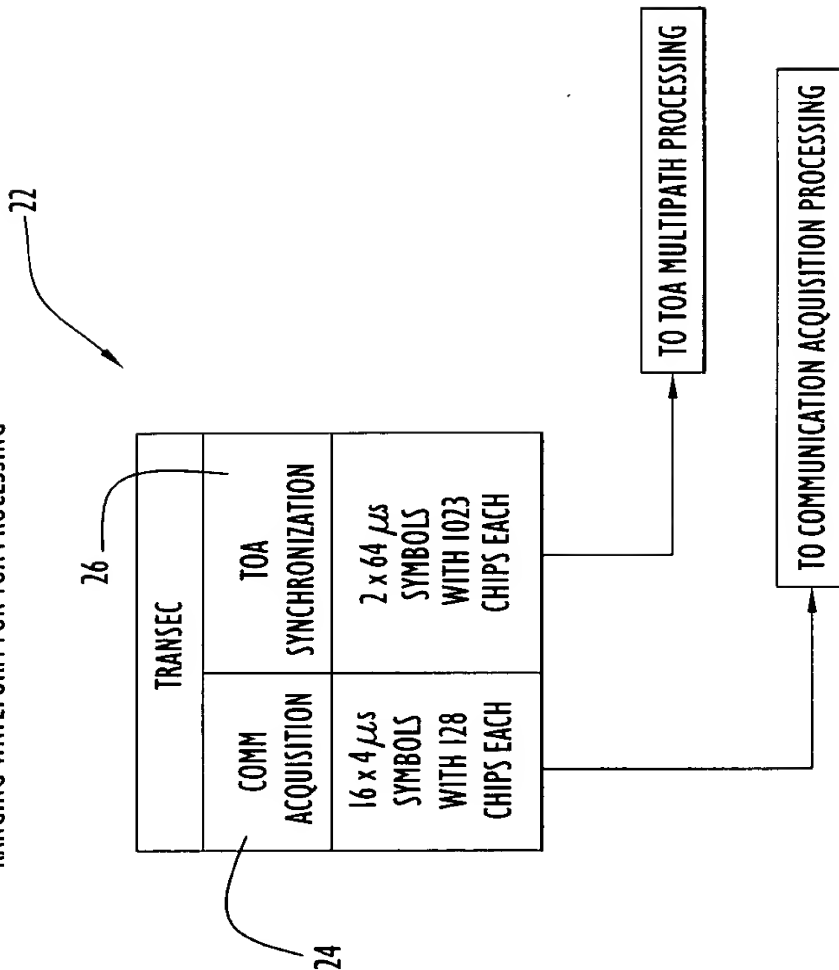


FIG.5

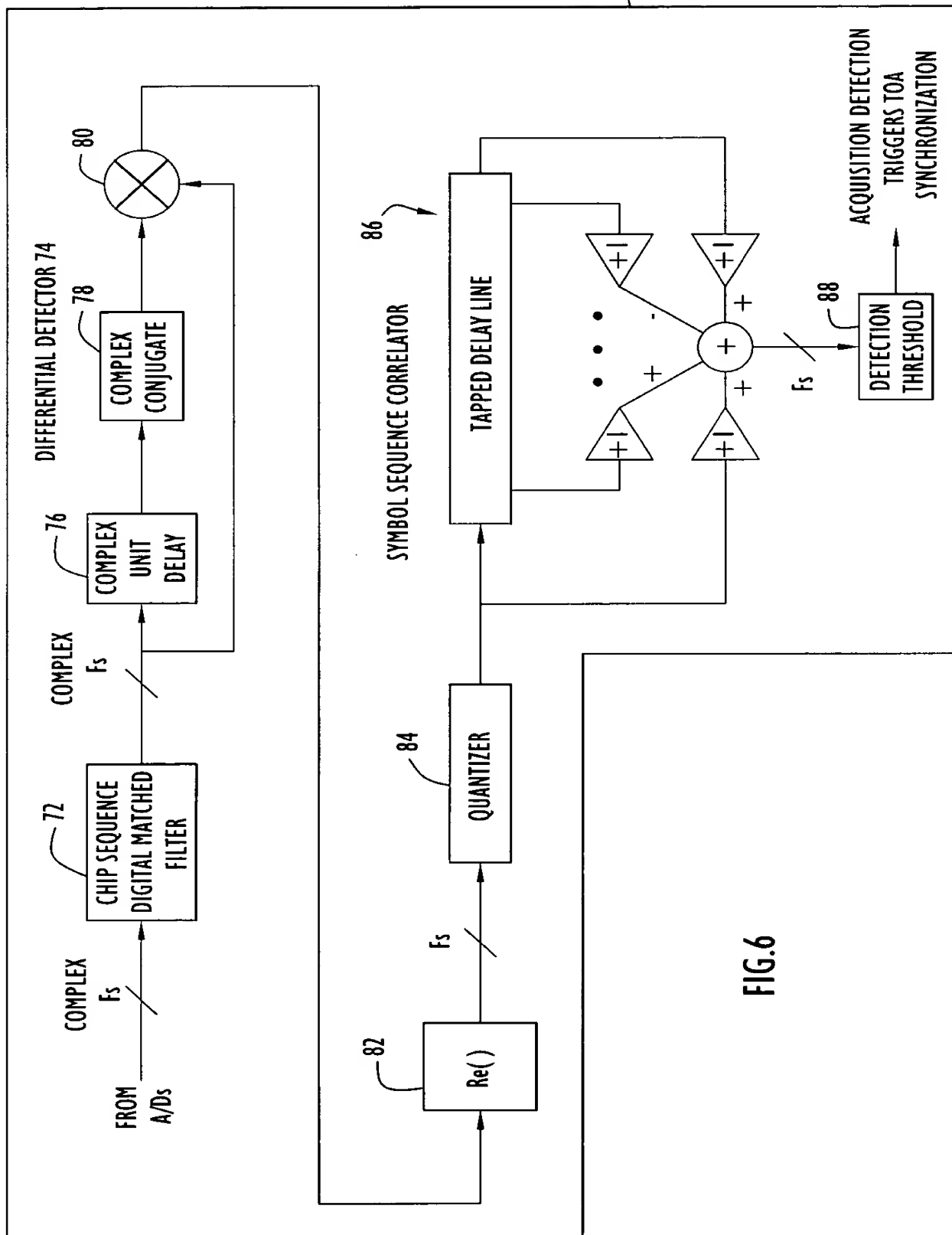


FIG. 6

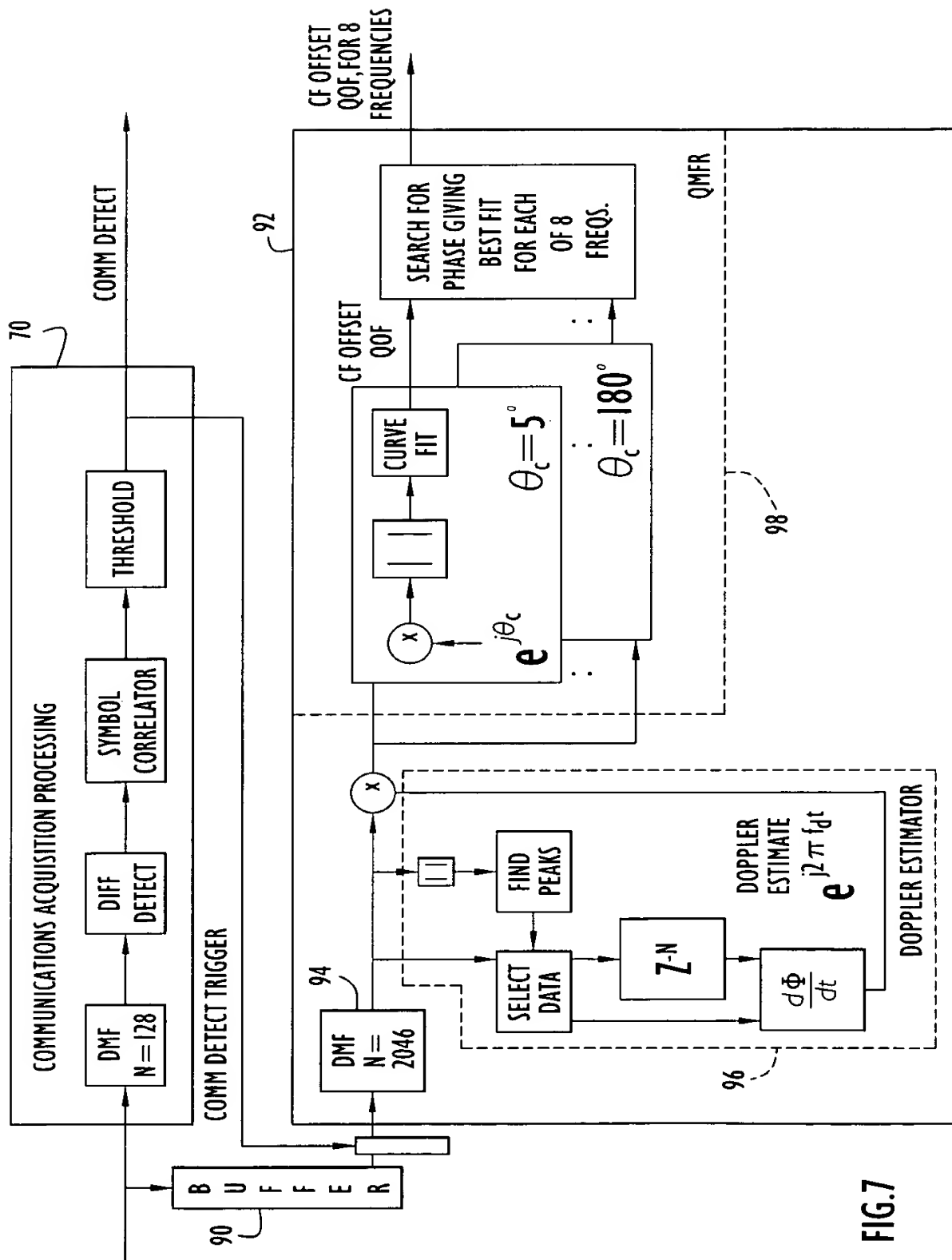
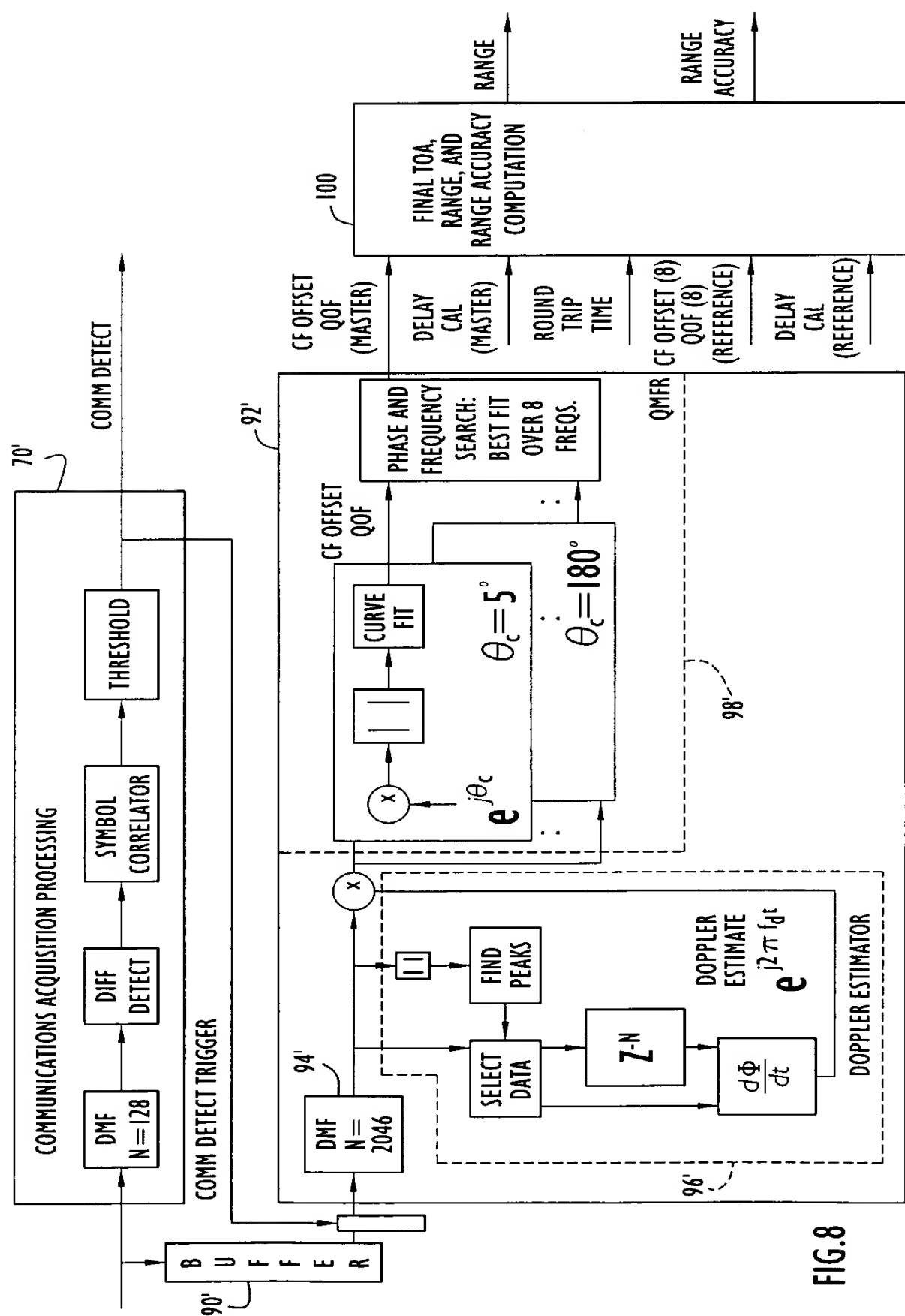


FIG.7



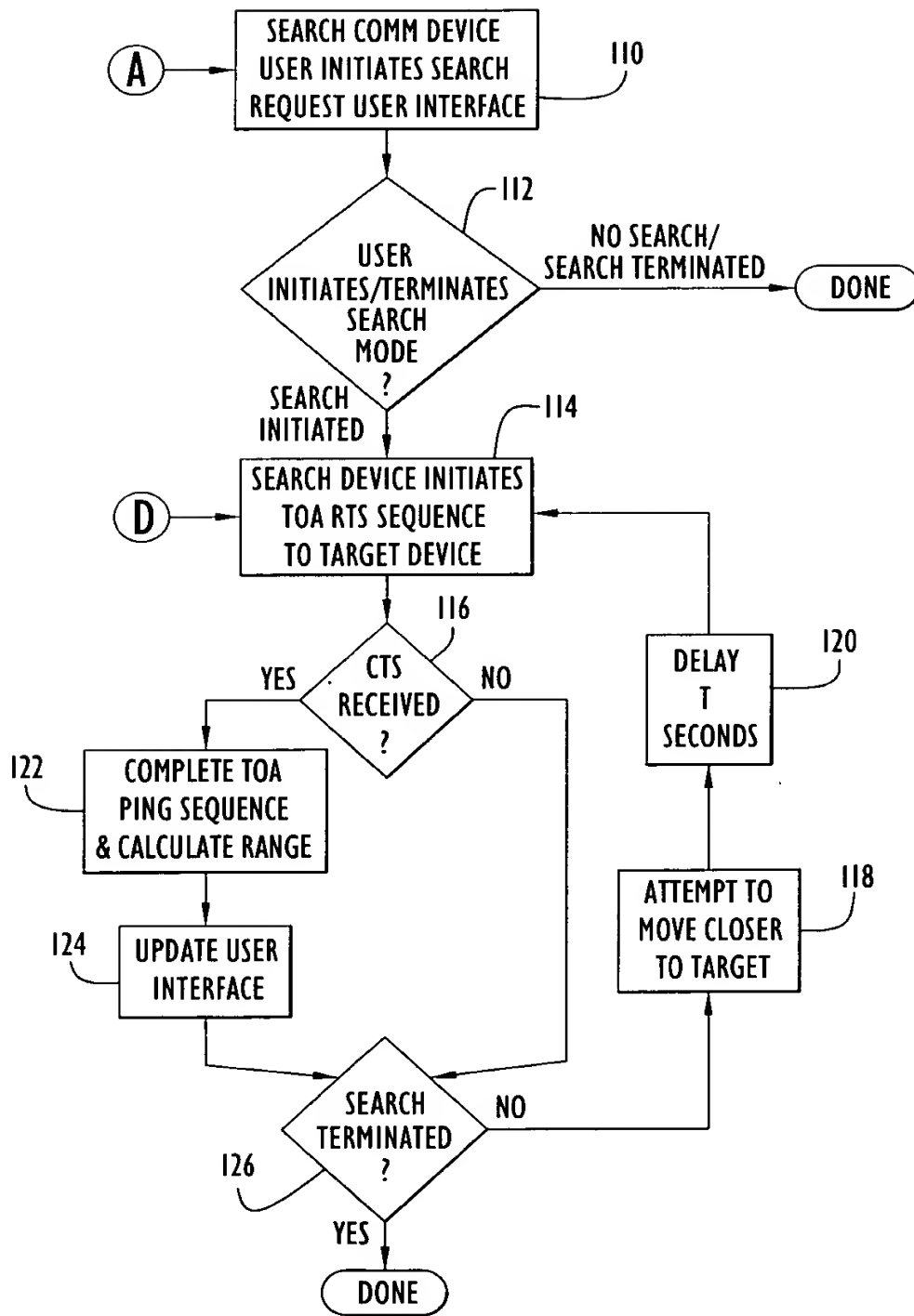


FIG.9



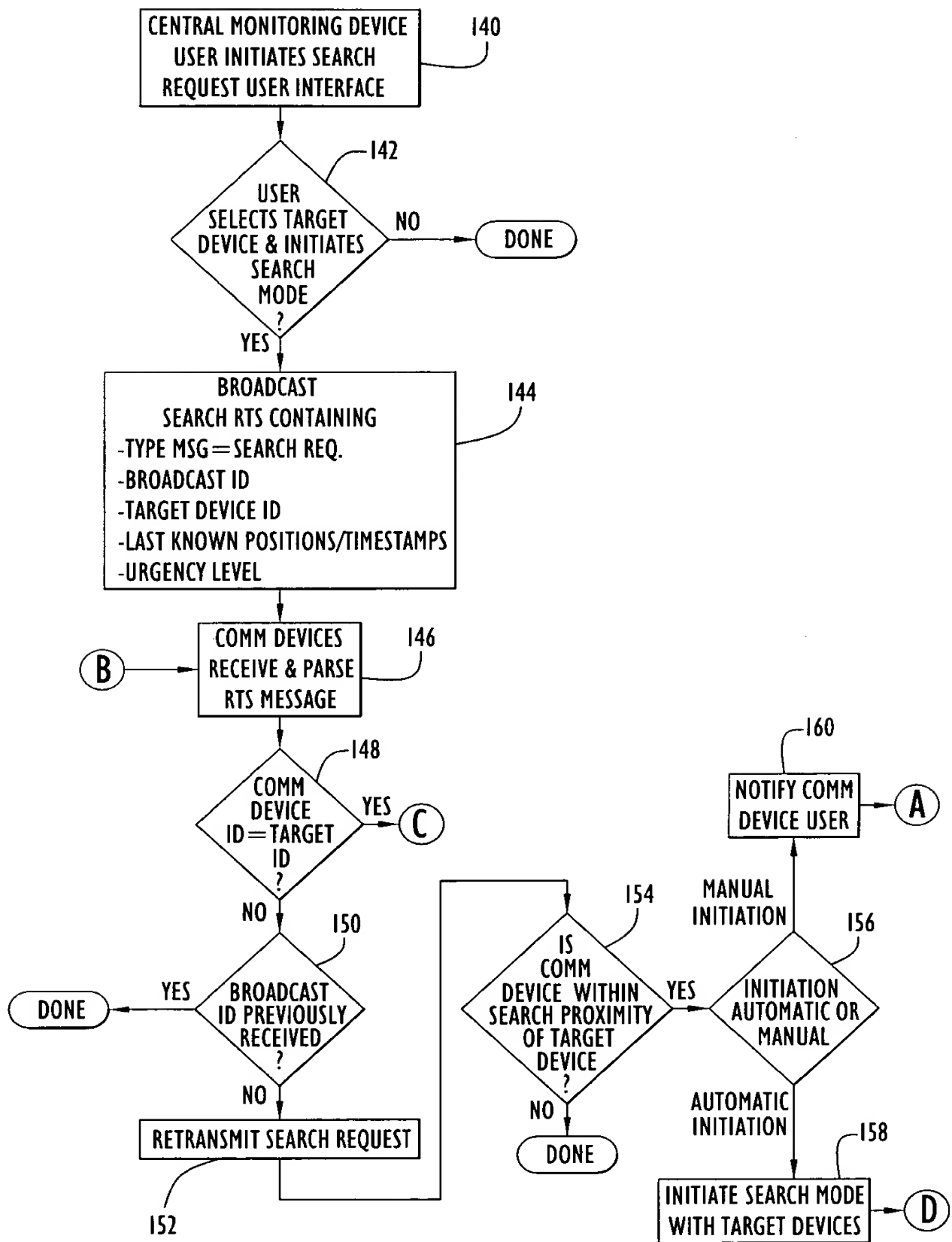


FIG.10

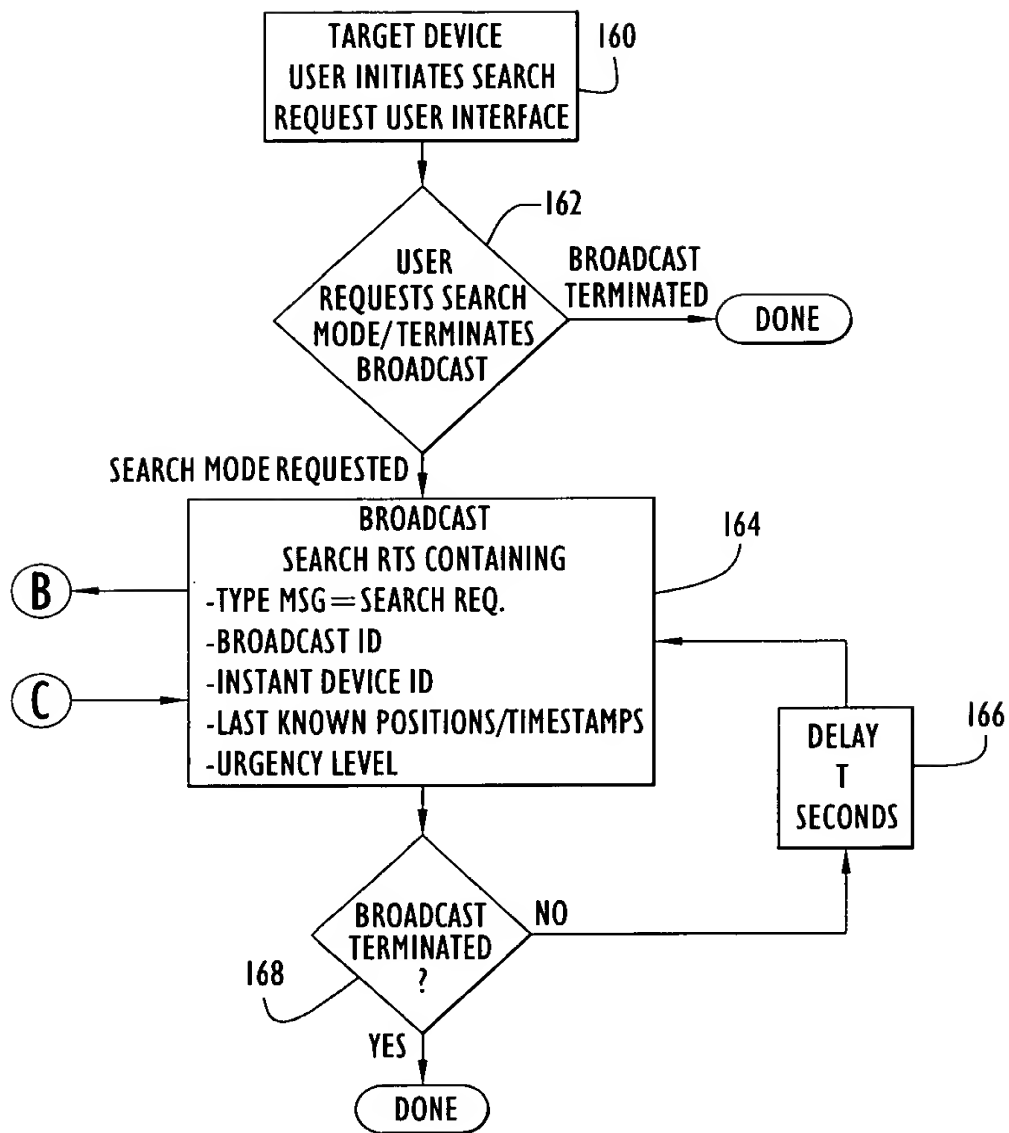


FIG. 11

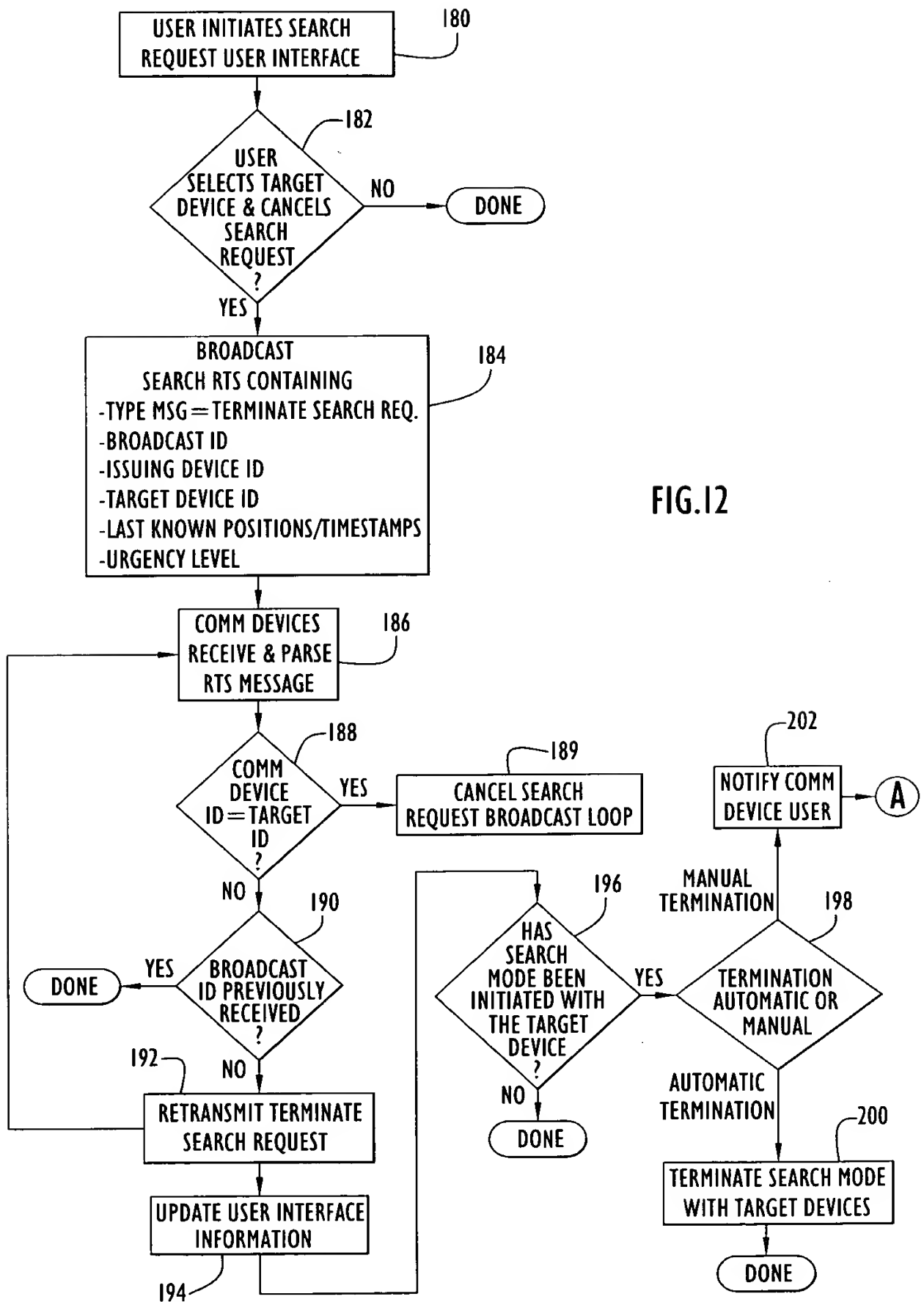


FIG.12